

The Study on Agricultural Export Trade to China through R3A Road: The Case of Phulae Pineapple

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Abstract

This research is qualitative research aims to 1. Study the authority and duties of the Yunnan Provincial Inspection and Quarantine Office, Especially the policy on importing agricultural products from Thailand; 2. Studying the standards and system of importing fresh fruits of China, especially pineapples, including quarantine standards Import permission regulations; 3. Study problems and obstacles and opportunities, in expanding the Thai pineapple export market to China in Yunnan province and neighboring provinces; 4. Study the demand for pineapple products and appropriate distribution channels.

The research found the Thailand fresh fruit use the R3A road export to China meet 3 obstacles are 1. High Transportation Cost, complex cross border procedures and poor condition of transport infrastructure are effective trade. Barriers. 2. The issue of trade facilitation, vehicles in China and Thailand cannot be directly connected, affecting the efficiency of logistics and transportation; 3. China and Thailand have different standards of inspection and quarantine for fruit import and export. which affects the export of Phulae Pineapple to the Chinese market. Chinese and Thai governments should strengthen consultations to promote trade facilitation; at the same time, the Chiang Rai should develop the pineapple processing industry and increase agricultural products value.

Keywords: *Phulae Pineapple, Export, R3A road, China*

1. Introduction

Thailand is an important agricultural country in the world, the gross agricultural value of northern Thailand has a higher proportion of GDP. In the northern Thailand, Chiang Rai's agricultural output accounted for 24% of GDP in 2009-2014 (Province Workshop-Chiangrai, 2016). The Phulae pineapple from Chiang Rai is Thailand's famous OTOP product. According to the "2018-2021 Chiang Rai Development Plan", the planting area and output of pineapple in Chiang Rai decreased during 2011-2015 (Table 1). However, until 2015, the area of pineapple planted in Chiang Rai still reached 11,767 rai, and the output was 36,767 tons (Chiang Rai Development Plan, 2016). In recent years, Thailand's economic development has slowed down and Thailand's domestic consumer market has been weak. Therefore, the pineapple in Chiang Rai needs to increase its development in foreign markets, and the Chinese market has great potential for development.

Table 1 2011-2015 Pineapple Planting Data in Chiang Rai

Pineapple	2011	2012	2013	2014	2015
Planting Area (rai)	18,131	19,846	18,313	31,776.20	11,767
Harvested Area (rai)	17,697	19,512	18,313	13,783.00	11,487
Productivity (tons)	68,965	51,296	50,359	86,625.95	36,767

Chiang Rai is located in the northern Thailand, bordering Laos and Myanmar and adjacent to Yunnan Province, China. Due to the inconvenient traffic, Chiang Rai has long been engaged in international trade with neighboring countries through the Mekong River. The Mekong River transportation cost is low, but the cycle is long. At the same time, the cargo boat has a certain weight requirement for the cargo, and the transportation efficiency is not high. The Chinese and Thai cargo boats on the Mekong River channel usually range from 150 tons to 400 tons, but the 150-ton to 400-ton cargo boats are unable to operate normally during the dry season from January to April each year due to the lower water level of the Mekong River (Somchai Thamsutiwat, 2011). It can be seen that the long-term transportation of the Mekong River waterway and the seasonal impact have limited the development of Chiang Rai's international trade, especially the transportation of fresh tropical fruits such as pineapples that are difficult to preserve.

In terms of aviation, in recent years, with the deepening of China-Thai exchanges, Chiang Rai International Airport has opened direct flights to China, but air cargo for the Chinese market is still underdeveloped. Although air freight is more efficient, the corresponding cost is higher. It is a more expensive channel for the trade of agricultural products with lower added value. Therefore, land transportation is currently a relatively fast and cheap channel for Chiang Rai to the Chinese market.

With the completion of the 4th Thai-Lao Friendship Bridge in 2013, the R3A international road connecting Thailand-Laos-China is fully opened. The route of the R3A is from Bangkok to Chiang Rai, through the 4th Thai-Lao Friendship Bridge into Laos, and finally into Yunnan Province of China.

The R3A international road has greatly saved the transportation time, and had a positive impact on the China-Thai pineapple trade and greatly promoted the export trade of Chiang Rai pineapples to the Chinese market. This project mainly studies the export of Phulae Pineapple of Chiang Rai through the R3A international road to the Chinese market, explores the problems encountered in the export trade of Phulae Pineapple of Chiang Rai and proposes corresponding countermeasures to promote the development of agriculture in northern Thailand and the trade of pineapple products between China and Thailand.

2. Literature Review

Since China and Thailand signed the "Early Harvest" program of Framework Agreement on Comprehensive Economic Co-operation between China and ASEAN in June 2003, the fruits and vegetables of China-Thailand have eliminated tariffs. Thailand became China's first country to implement zero tariffs on fruit products under the framework of the China-ASEAN Free Trade Area. In the fruit trade between China and Thailand, both parties have their own superior products, which in turn form competitive and complementary.

China-Thai fruit trade complementarity research. Zhu xingyue and Jin Lei analyzed the competition and complementarity of China-Thai fruit trade with the comparative advantage index, international market share and trade complementarity index from 2001-2016 China-Thai fruit trade data. They pointed out that the competitiveness of Thai fruit products is higher, and the trade complementarity between the two countries is relatively strong (Zhu xinyue, 2018). Gong Zhichao and Sun Lei pointed out that there are complementary spaces for most fruits in China and Thailand through the measurement of trade complementarity index, in which complementary fruit products are concentrated in coconut, fig, pineapple, mango, mangosteen, etc (Gong zhichao, 2014).

China-Thai fruit trade competition research. Liu Peiqin pointed out that China has been the first fresh fruit exporter for Thailand from 2012 to 2014. However, Thai fruit faces many obstacles and competitors in the Chinese market, especially the competition between Vietnam and Chinese local fruit (Liu peiqin, 2015). Saelee Yuttana analyzed the international market competition potential of Thailand's main fruit exports, pointed out that related companies must be committed to improving productivity through production management, cutting costs and increasing competitiveness (Saelee Yuttana, 2015).

Research on the strategy of Thai fruit export to China. Based on the research on the production of fresh tropical fruits in Thailand and the status of China-Thai trade, Jariyavijit Noppawan used SWOT analysis to qualitatively analyze the fresh tropical fruit industry in Thailand, and then proposed countermeasures and suggestions for the fresh tropical fruit industry in Thailand (Jariyavijit Noppawan, 2014).

3. Materials and Methods

3.1 R3A International Road: Phulae Pineapple and Chinese Market

3.1.1 China's Pineapple Market

In 2018, 50% of world pineapple exports were shipped from Costa Rica, with volumes of 8 million tons, with the Philippines in second place in the export rankings. The biggest importers are the United States, while in Europe the most important destination is the Netherlands with 318 thousand tons. The third largest buyer market is China (185 thousand tons) (Macfrut, 2019).

In 2003, China and Thailand officially implemented the "zero tariff" on vegetable and fruit trade. In 2013, the Belt and Road Initiative (BRI) implemented by China promoted the export of Thai pineapple products

to the Chinese market. In 2003-2017, the total amount of imported Thai pineapple products (fresh or dried pineapple, canned pineapple, pineapple juice) increased from 608.698 tons to 7,389.988 tons, and total imports increased from 422,423 dollars to 9,169,344 dollars (UK Comtrade Database, 2003-2017). In recent years, the total amount and total value of China's imports of pineapple products from Thailand have fluctuated, but the overall trend is rising.

However, compared to China's imports of pineapple products from the world, the total amount of Thai pineapple products is not high. In 2017, China imported a total of 170,868,340 dollars of pineapple products, Thailand only accounted for 5.4%; China imported 168,548.542 tons of pineapples worldwide, while Thailand only accounted for 4.4% (UK Comtrade Database, 2017). Among the ASEAN countries, China imported Philippine pineapple products in 2015, reaching 120,622.478 tons, accounting for 71.6% of China's total imports in the world, accounting for 91.6% of China's total imports in ASEAN; and Thailand's pineapple products are exported to China. However, Thai pineapple products are exported to the Chinese market, accounting for only 5.6% of the total ASEAN. (Figure 1) It can be seen that the export of Thai pineapple products to the Chinese market has great potential for development, which is a rare business opportunity for Phulae Pineapple.

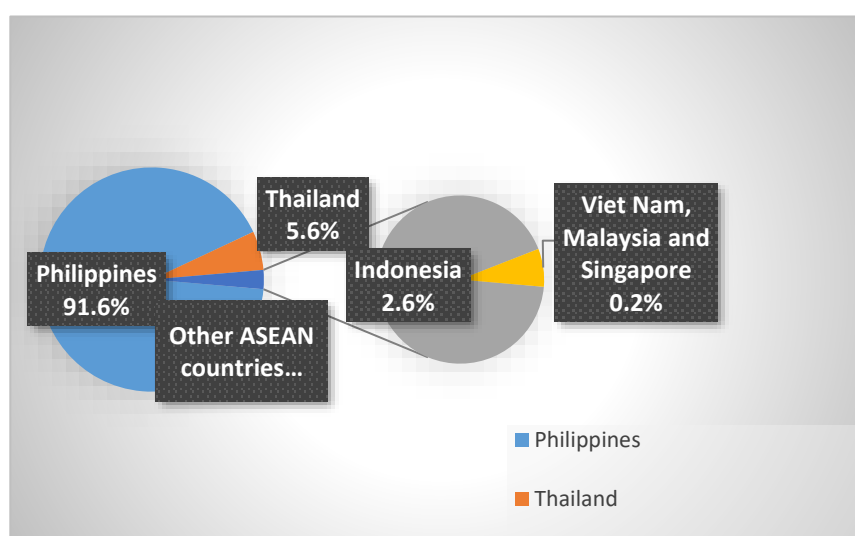


Figure 1 Total amount of ASEAN's Pineapple import to China in 2017

Source:UK Comtrade Database <https://comtrade.un.org/data/>

3.1.2 China Food Inspection and Quarantine Bureau

Food safety is an increasingly important issue for China. The Chinese government has been working to reform food safety control for decades both domestic or import foods. At present, China state agencies with control over fruits and vegetables standards and safety consists of 2 major agencies, as follows (Produce Marketing Association, 2016):

1. The General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) is under the State Council of the People's Republic of China in charge of national quality, metrology, entry-exit commodity inspection, entry-exit health quarantine, entry-exit animal and plant quarantine, import-export food safety, certification and accreditation, standardization, as well as administrative law-enforcement.
2. China Inspection and Quarantine (CIQ), which was merged with the State Bureau of Quality and Technical Supervision in 2001. CIQ operates under the mandate of the AQSIQ and retains roughly 35 offices across China, sometimes referred to as Entry-Exit Inspection and Quarantine Bureaus, which serve several key functions such as Maintain a clear line of communications with laboratories and local offices to ensure import quality standards are upheld.

3.2 R3A International Road

The R3A international road is an important traffic artery for China to connect with neighboring Southeast Asia. It is a key project for China-ASEAN Free Trade Area cooperation. In 2013, it became the North-

South Economic Corridor of GMS. The R3A international road passes through China, Laos and Thailand. Its route is: Kunming (Yunnan, China) - Yu xi-Pu er-Xi shuang ban na-Mo han Port (China) - Boten Port (Laos) - Houay xai Port (Laos) - Chiang Khong Port (Chiang Rai, Thailand) - Bangkok. The R3A international road promoted the development of Yunnan-Thailand trade. In 2008, the total bilateral trade of Yunnan-Thailand was only \$250 million. but in 2016, bilateral trade reached \$1.144 billion, an increase of 357.6% in 8 years (Ming rong, 2018).

Through the R3A, the closest Chinese market for Chiang Rai is Yunnan Province of China. With the deepening of China Western Development and the BRI, the Chinese central government actively supports the development of Yunnan Province, which brings vitality to Yunnan's social and economic development. From 2001 to 2017, the population of Yunnan increased from 42.874 million to 48.05 million; but the GDP increased from 213.831 billion yuan to 176.364 billion yuan, the average annual growth rate was 10.5%; the annual per capita GDP increased by 34,221 yuan from 5015 yuan (Statistical Bureau of Yunnan Province, 2018).

Despite the rapid social and economic development of Yunnan Province in recent years, it still has a certain gap compared with the whole country of China. At the end of 2017, Yunnan's GDP accounted for only 2% of China's total, and per capita GDP only reached 57.4% of the national average (Statistical Bureau of Yunnan Province, 2018). It can be seen that Yunnan's economic development and household consumption capacity still have great potential. Therefore, Phulae pineapple of Chiang Rai has great potential to expand exports to the Yunnan market in China.

Since China proposed the BRI in 2013, Yunnan Province has actively integrated the BRI and strives to build itself into a radiation center for South Asia and Southeast Asia. Yunnan Province will link developed markets such as the Yangtze River Delta, the Pearl River Delta and the Chengdu-Chongqing Economic Circle, and focus on building regional economic and trade center. The R3A international road connects Chiang Rai of Thailand and Yunnan of China. The Phalae pineapple of Chiang Rai can be exported to Yunnan through the R3A, and then to the developed markets such as the Yangtze River Delta, the Pearl River Delta and the Chengdu-Chongqing Economic Circle through Yunnan's three-dimensional modern transportation hub and logistics center.

3.3 Research Methodology

The Study on Agricultural Export Trade to China through R3A Road--the Case of Phulae, is a qualitative research that consists of Documentary Research, and In-depth Interview.

1) Documentary Research

The research team studied secondary data from researches, journals, printed media, and online media, through the collection and review of information related to the Agricultural Export Trade to China through R3A Road

2) Interviews (In-depth Interview)

For the in-depth interviews, the research team set 2 types of questions, or interview. The first type was semi-structured questions, or guided interview. And the second type was unstructured questions, or open-ended interview, which will help the researcher understand other issues relating to the objectives. For interviewees, the research team selected sample groups includes the Government officials, Businessmen, Academics, from both the Thai and the Chinese sides.

4. Results and Discussion

4.1 The issue of the export of fresh Phalae pineapple to China in the R3A channel

Pineapple products can be mainly divided into fresh pineapple, dried pineapple, canned pineapple and pineapple juice. At present, the fresh Phulae pineapple, which is exported to China through the R3A, mainly encounters the following problems:

4.1.1 Infrastructure problems of the R3A international road

In 2008, the R3A international road was opened to traffic. Since the completion of the 4th Thai-Lao Friendship Bridge in December 2013, the R3A has theoretically achieved the whole process, but the corresponding infrastructure of the R3A is still not perfect.

At present, all 688 kilometers of the R3A international road in China have completed highways, and more than 800 kilometers in Thailand have achieved high speed. However, 247 kilometers in Laos only meet the standards of ASEAN secondary roads (Luo rongchan, 2014). The conditions of the R3A in Laos are poor.

Most of the roads in Laos can only maintain speeds of 30-40 km per hour, which restricts large-scale and efficient logistics development (Guan weijiang, 2006). This has a very negative impact on the transportation of fresh Phalae pineapple, which has a short shelf life and is not easy to store.

At the same time, the logistics supporting hardware facilities of the R3A are not perfect. There are not many modern warehousing facilities along the R3A, and modern handling tools are used less, and most of the tools used for loading and unloading goods are hand-pushing forklifts and ordinary lifting equipment. Although the facilities of logistics stations in China and Thailand are relatively complete, the logistics stations in Laos are very simple, and the most basic service facilities such as gas stations, rest areas and toilets are also lacking (Huang jie, 2016).

4.1.2 Trade Facilitation Issues along the Port of the R3A international road

Due to the fact that China and Thailand have not signed a transport facilitation agreement, the vehicles of the two countries are not free to transit. The precondition for vehicles from both China and Thailand to enter the other party's country is to replace the other party's transport vehicles in Laos. When Thai trucks leaving the Chiang Khong Port enter the Mohan Port of China, the Thai trucks need to reload and convert the Chinese licenses, which increases the transit time and transportation costs of Thai goods. In 2010, Mohan Port of China started the cabinet reloading business of the cold chain container and actively provided convenient services of customs clearance (Chinanews Network, 2010). Although this business greatly saves customs clearance time, it still requires a certain replacement time.

In addition, customs clearance time varies greatly between countries along the R3A. At the Mohan Port of China, non-holiday customs clearance will be implemented to ensure the rapid clearance of imported fruits, to avoid backlog and vehicle detention. According to Qian Ya-nan, customs broker of Xishuangbanna Chenlong International Freight Forwarding Co., Ltd., in China's Mohan Port, most imported fruits can go through the customs clearance process in one and a half hours, and the fastest time is only 45 minutes (Yunnan Network, 2019). However, frequent inspections and complicated procedures at the ports of Laos have adversely affected the trade of fresh Phalae pineapple, which has a short shelf life and is not easy to store.

4.2 Inspection and Quarantine Standardization Issues

Under Framework Agreement on Comprehensive Economic Co-operation Between China and the ASEAN, the China-Thailand fruit and vegetable trade began to implement zero tariffs on October 1, 2003. Since then, the inspection and quarantine departments of China and Thailand have repeatedly contacted and signed the MOU on Sanitary and Phytosanitary Cooperation in 2004. In 2009, the two sides signed the protocol on the inspection and quarantine requirement from Thai fruit for Thai to china through territories of third countries. However, it stipulates that Thai fruits should be transported by refrigerated containers and transported according to the designated route: Mukdahan (Thailand) - Savannakhet - Dasha Bay (Laos) - Lao Bao - Ha Tinh- Thanh Hoa - Hanoi - Lang Son (Vietnam)-Youyi Guan (China). This route has not passed through Chiang Rai.

In February 2011, the two sides between China and Thailand signed the Protocol on the Inspection and Quarantine Requirements for Import and Export of Fruits through the R3A (draft), which marked the opening of the "fruit trade" channel of R3A international road (Xinhua news, 2011). The signing of the draft agreement allows Thai fruit to enter the Chinese market quickly from the R3A. Although China-Thailand cooperation on the inspection and quarantine for import and export of fruits has been continuously strengthened, there are still differences in the requirements and measures of SPS between China and Thailand. With the implementation of Xi Jinping's green development concept, China's food safety work has been continuously strengthened, and the food safety and health awareness of Chinese consumers have been continuously improved. This has made China's food hygiene and epidemic prevention standards more and stricter. Therefore, the quality inspection departments of China and Thailand should strengthen cooperation, promote the standardization of sanitary and epidemic prevention for import and export of fruits, and shorten the customs clearance time for import and export of fruits.

4.3 Optimization Strategies of Phalae Pineapple Export to Chinese market

In order to increase the market share of Phalae Pineapple in the Chinese market, this project proposes some optimization strategies based on the above issues:

4.3.1 Countries along the R3A should strengthen interconnection, trade facilitation and standardization cooperation

In terms of interconnection on the R3A, the road and logistics infrastructure of the R3A in Laos is poor. Due to its limited financial resources, Laos can apply for infrastructure assistance funds from the ADB of the GMS cooperation mechanism and AIIB of the BRI cooperation mechanism.

In terms of trade facilitation, China and Thailand should signed an agreement on transportation facilitation as soon as possible to achieve seamless integration of the R3A international transportation. At present, China and Laos can actively coordinate and promote the pilot of double licenses for cross-border vehicles (Luo rongchan, 2014). When the Thai cargo truck arrive at Huayxai Port (Laos), it switch to the Laos truck head and use the Lao-China double truck license. When passing through the Mohan Port of China, it do not need to be changed and directly enter China.

In terms of standardization of inspection and quarantine, the quality inspection departments of China, Laos and Thailand should strengthen health and epidemic prevention cooperation, establish a regional health and epidemic prevention standard system for import and export of fruits as soon as possible, build a standardized information platform, and promote mutual recognition of bilateral and multilateral standards.

4.3.2 The Local Government of Chiang Rai should promote the professional cultivation of Phalae Pineapple and develop the pineapple processing industry

In 2017, among the pineapple products imported from ASEAN countries in China, the proportion of fresh pineapples from the Philippines was the highest, reaching 113,221.551 tons. However, the import of fresh or dried pineapples from Thailand was only 402.23 tons, but the imported canned pineapples were 6,454.846 tons and the imported pineapple juice was 532.912 tons (UK Comtrade Database, 2017). Figure 2 can be seen that there are still great potentials for the export of Phalae Pineapple products to the Chinese market.

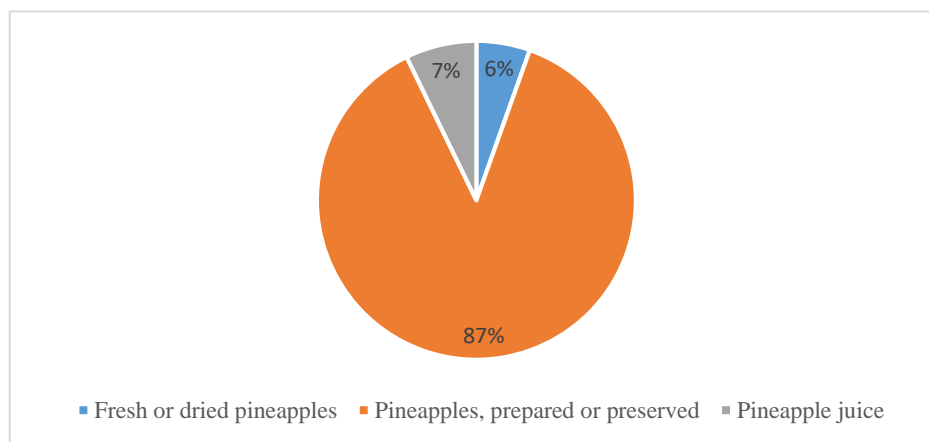


Figure 2 Total amount of Thailand's pineapple products imported by China in 2017

Source:UK Comtrade Database <https://comtrade.un.org/data/>

The local government in Chiang Rai should promote the improvement of the quality of fresh Phalae pineapple. Isolated and scattered pineapple growers make it difficult for pineapple exporters to obtain stable high-quality pineapple sources. Therefore, the local government should help pineapple growers develop collective and specialized cultivation by supporting agricultural cooperatives, and provide modern agricultural technology training for them to improve the quality of fresh Phulae Pineapple products and promote exports to the Chinese market. Local governments in Chiang Rai should vigorously develop the pineapple processing industry and increase the added value of products. As the current R3A international highway still has the above issues of interconnection and trade facilitation, these issues have a negative impact on the logistics transportation efficiency of the R3A. The fresh Phulae Pineapple has a short shelf life, is not easy to store, and has high requirements for logistics and transportation efficiency. Therefore, it will have a certain loss on the R3A international road. At the same time, the added value of fresh pineapple products is not high compared to products such as pineapple juice and canned pineapple. Therefore, the

local government should vigorously develop the pineapple product processing industry, process the fresh Phulae Pineapple into higher value added pineapple juice, canned pineapple and other products, and increase the export of non-fresh pineapple products to China.

4.3.3 Phulae Pineapple exporters should identify the target customers in the Chinese market and form a differentiated advantage

In 2014, China implemented the Regional Layout of Advantageous Agricultural Products (2015-2020). During this planning period, it focused on the development of 25 characteristic fruits, and the key areas for the development and cultivation of pineapples are in Yunnan (Ministry of Agriculture of China, 2016). Among the major pineapple producing countries, Thailand has a strong international competitiveness, but there is still a certain gap compared with the pineapples in Costa Rica and the Philippines (Liu haiqing, 2016). At the same time, the international competitiveness of China's pineapple has gradually increased, and the future will be a certain competition with Thailand's pineapple products.

Therefore, to occupy the Chinese market, Phulae Pineapple exporters should identify the target customers and form differentiated advantages according to the needs of the target customers. Phulae Pineapple is expensive compared to Chinese fruit, so its target customers in the Chinese market are middle and high-income people. This group of people pay more attention to physical health and the pursuit of spiritual life (Yang jie, 2016). Therefore, Phulae Pineapple must be different from the international similar products. On the one hand, it will continue to maintain its own characteristics in terms of quality, while paying attention to green organic cultivation and promoting green pineapple products; on the other hand, Chiang Rai culture can be incorporated into the sales process. Let Chinese customers who have not been to Thailand feel the culture of Chiang Rai.

5. Conclusions

As an important agricultural province in Thailand, Chiang Rai has a high proportion of agriculture in GDP, and agricultural trade affects the living standards of local people. At present, Thailand's economic development is slow, the consumer market is weak, and the domestic market for agricultural products is limited. Therefore, Chiang Rai's agricultural products need to expand exports to foreign markets. At present, China's economy is developing rapidly and the consumer market is huge.

With the implementation of China's BRI and Lancang-Mekong Cooperation, China has increased economic and trade cooperation with countries and regions in the ASEAN. Therefore, Chiang Rai's agricultural products trade should take advantage of this strategic opportunity to face the Chinese market and increase exports to China.

The Chinese market, which is close to Chiang Rai, is Yunnan. The R3A International road is a China-ASEAN international land route connecting Bangkok-Kunman. Chiang Rai is an important node city along the R3A, and the R3A promotes bilateral trade in Chiang Rai-Yunnan. With China's "Western Development" strategy and the BRI, Yunnan has developed rapidly and the consumer market has great potential. The Phulae Pineapple is Thailand's famous OTOP product and is an important economic crop in Chiang Rai. Since the opening of the R3A international road, a large number of Phulae Pineapple have been exported to the Yunnan market.

At present, the Phalaе Pineapple, which is exported to China through the R3A, mainly encounters the following issues: 1. Infrastructure issue. The road conditions in Laos are poor, the logistics supporting hardware facilities in Laos are not perfect; 2. The trade facilitation issue. Since the vehicles in China and Thailand cannot be directly reached, they need to be replaced in the middle, which increases the logistics cost of fresh pineapple; 3. Standardization of inspection and quarantine. At present, China's food safety work is continuously strengthened, which increases the gap between China and Thailand on the sanitary and epidemic standards for import and export of fruits.

In order to promote the export of Phulae Pineapple to the Chinese market, the project proposes some optimization strategies: 1. Countries along the line should strengthen interconnection, trade facilitation and standardization cooperation. Laos can use the GMS and BRI cooperation mechanisms to apply for infrastructure construction funds; China and Thailand will sign a transportation facilitation agreement as soon as possible to achieve seamless integration of R3A international road; China, Laos and Thailand should establish a regional health and epidemic prevention standard system for import and export of fruits as soon as possible. 2. The local government in Chiang Rai should help pineapple growers develop

collective and specialized cultivation by supporting agricultural cooperatives, and improve the quality of fresh Phulae Pineapple products. At the same time, vigorously develop the pineapple processing industry and increase the added value of products. 3. Phulae Pineapple exporters should identify the target customers in the Chinese market, pay attention to the promotion of green pineapple products, and integrate the Chiang Rai culture into pineapple products.

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